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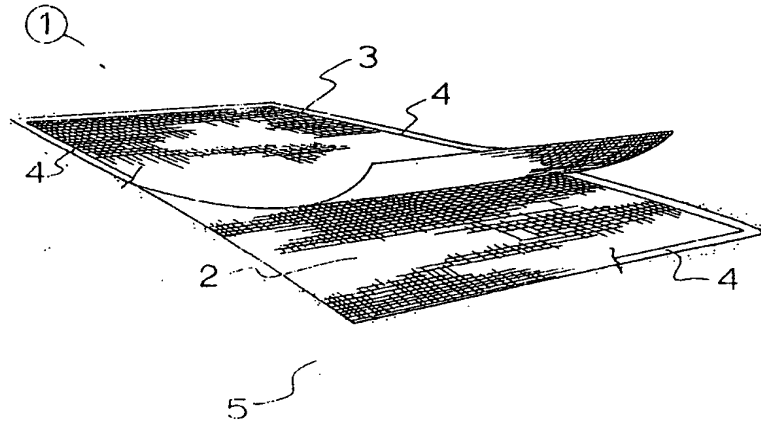
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A MAT



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(57) Abstract: A beach mat is disclosed which comprises a first layer (2) secured to a second layer (3). Each layer (2,3) is manufactured from a flexible polypropylene mesh material, suitably shade cloth with a shade rating of approximately 70 %. The perimeters of each layer (2, 3) are secured together with overlapping tape (4) which is sewn into position. When the mat (1) is placed on sand (5) with the first layer (2) downwards, any sand that passes upwards through the lower surface of the first layer (2) is retained between the first layer (2) and the second layer (3). Any sand that falls on the upper surface of the second layer (3) and passes therethrough is also retained between the first layer (2) and second layer (3). Optionally, a third layer (7) manufactured from polyvinylchloride-coated nylon mesh material can be positioned over the second layer (3) and the perimeters of each layer (2, 3, 6) secured together with the overlapping tape (4). The upper surface of the third layer (7) can be screen-printed. Any sand that falls on the upper surface of the third layer (7) passes through that layer and also through the second layer (3) to be retained between the first layer (2) and second layer (3).

TITLE: A MAT

THIS INVENTION relates to matting. In particular, although in no way limiting, it is directed to a mat for placing on sand and similar particulate material.

Attending the beach for swimming, sun bathing and similar pastimes is a popular recreational activity, especially in the warmer climates. Participants often have a need to sit, lie or otherwise recline on the sand. Usually, a towel is first placed on the ground to shield the person from the sand. However, any sand that was clinging to the person's skin, especially if the skin is wet, subsequently dries and falls from the person to remain on the upper surface of the towel thus making the towel uncomfortable to sit or lie on. Similarly, in windy conditions, sand is blown onto the towel. Periodically lifting the towel to try and remove this sand by shaking is not necessarily totally satisfactory as the towel is often wet or at least damp and the sand remains clinging to the towelling fibres. Consequently, subsequent reuse of the towel to dry that person is, at best, uncomfortable as the sand remaining on the towel is also rubbed over the skin while attempting to soak up the water thereon.

A partial solution to this disadvantage of the traditional towel is to first place an undercloth on the sand and the towel is then placed on this undercloth. A popular undercloth in recent times has been one formed from lateral strips of bamboo or similar cane-like material sewn together in a mat-like configuration. While the relatively broad strips do contribute to preventing sand from passing upwards through it, the nature of its strip-like configuration leaves significant spacing between the strips which still allow a quantity of sand to pass therethrough and subsequently cling to the undersurface of any towel placed thereon.

Another attempt to at least partially resolve these disadvantages is disclosed in US 5,018,230 wherein is described a mat of two layers, the upper layer being made of an open weave material through which sand may pass, the lower layer being made from a tight weave material to retain any sand that passes through the upper layer. However, this tight weave lower layer is manufactured from a terrycloth cotton and thus still suffers from the disadvantage of having the sand adhering to the underside of the lower layer.

It is therefore a general object of the present invention to overcome, or at least ameliorate, one or more of the abovementioned disadvantages.

According to the present invention, there is provided a mat for use to place on particulate matter, said mat including:

- a first layer having an upper surface and a lower surface, said first layer adapted to allow passage of said particulate matter therethrough when said lower surface is in contact with said particulate matter; and

- at least a second layer having an upper surface and a lower surface, said second layer adapted to allow passage of any of said particulate matter that may fall on said upper surface of said second layer to pass therethrough;

- wherein said second layer is positioned substantially over said first layer to retain therebetween any of said particulate matter that has passed through said upper surface of said second layer and/or said lower surface of said first layer.

In a first embodiment of said mat, there is a single said second layer.

In a second embodiment of said mat, there is included a third layer positioned substantially over said second layer having an upper surface and a lower surface, said third layer also adapted to allow passage of any of said particulate matter that may fall on said upper surface of said third layer to pass therethrough.

Preferably, each of said first, said second and said third layer is of a mesh-like configuration.

Preferably, each of said first, said second and said third layer is manufactured from a flexible material.

Preferably, said flexible material is a plastic material.

Preferably, each of said first and said second layer is manufactured from polypropylene.

Preferably, said third layer is adapted to accept screen printing on its said upper surface.

Preferably, said third layer is manufactured from nylon.

More preferably, said third layer is manufactured from polyvinylchloride-coated nylon.

Preferably, said first layer is secured to said second layer and to any said third layer at the perimeter of each of said layer.

Preferred embodiments of the present invention will now be described with reference to the accompanying drawings wherein:

FIG. 1 is a schematic partially exploded representation of a first embodiment of a mat to be used at a beach; and

FIG. 2 is a schematic partially exploded representation of a second embodiment of a mat to be used at a beach.

With reference to FIG. 1, the mat (1) comprises a first layer (2) secured to a second layer (3). Each layer (2,3) is manufactured from a flexible polypropylene mesh material. A suitable flexible mesh material is that marketed as shade cloth by a number of manufacturers with a shade rating of approximately 70%. The perimeters of each layer (2,3) are secured together with overlapping tape (4) which is sewn into position.

In use, when the mat (1) is placed on the sand (5) with the first layer (2) downwards, any sand that passes upwards through the lower surface of the first layer (2) is retained between the first layer (2) and the second layer (3). Similarly, any sand that falls on the upper surface of the second layer (3) and passes therethrough is also retained between the first layer (2) and second layer (3).

Although not wishing to be bound by theory, it is believed that the mesh-like structure of each layer (2,3) is such that there is substantially no overlap of the corresponding openings in each layer (2,3) when they are secured together thus allowing sand (5) to pass through each layer in a single direction only.

Turning now to the mat (6) illustrated in FIG. 2, the first layer (2) and the second layer (3) are exactly as described above with reference to FIG. 1. However, a third layer (7) manufactured from polyvinylchloride-coated nylon mesh material is positioned over the second layer (3) and the perimeters of each layer (2,3,6) are secured together with the overlapping tape (4). The upper surface of the third layer (7) can be screen-printed by any means known within the art to apply text, drawings, logos, slogans, etc (not illustrated) to its upper surface.

In use, when the mat (6) is placed on the sand (5) with the first layer (2) downwards, any sand that passes upwards through the lower surface of the first layer (2) is retained between the first layer (2) and the second layer (3). Any sand that falls on the upper surface of the third layer (7) passes through that layer and also through the second layer (3) to be retained between the first layer (2) and second layer (3).

It will be appreciated that the mats (1,6) can be of any convenient size and shape. Usually, when to be used as a beach mat, the shape will be rectangular and of a size sufficient to allow a beach towel or similar to be placed thereon. Of course, the size of the mat (1,6) could be extended to accommodate two or more of such towels. Similarly, even larger sizes could function as a ground cover for campers, keeping the tent free from sand or soil.

The present invention thus provides a mat which is of especial, but not limiting, use at the beach which can function as an undercloth for a towel to prevent passage of any sand through the undercloth to the towel and whereby any sand falling on the upper layer of the mat falls through thus also remaining clear of the towel.

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Those skilled in the art will appreciate that modifications and alterations can be made to the mat as hereinbefore described without departing from the inventive concept as defined in the following claims.

CLAIMS

1. A mat for use to place on particulate matter, said mat including:

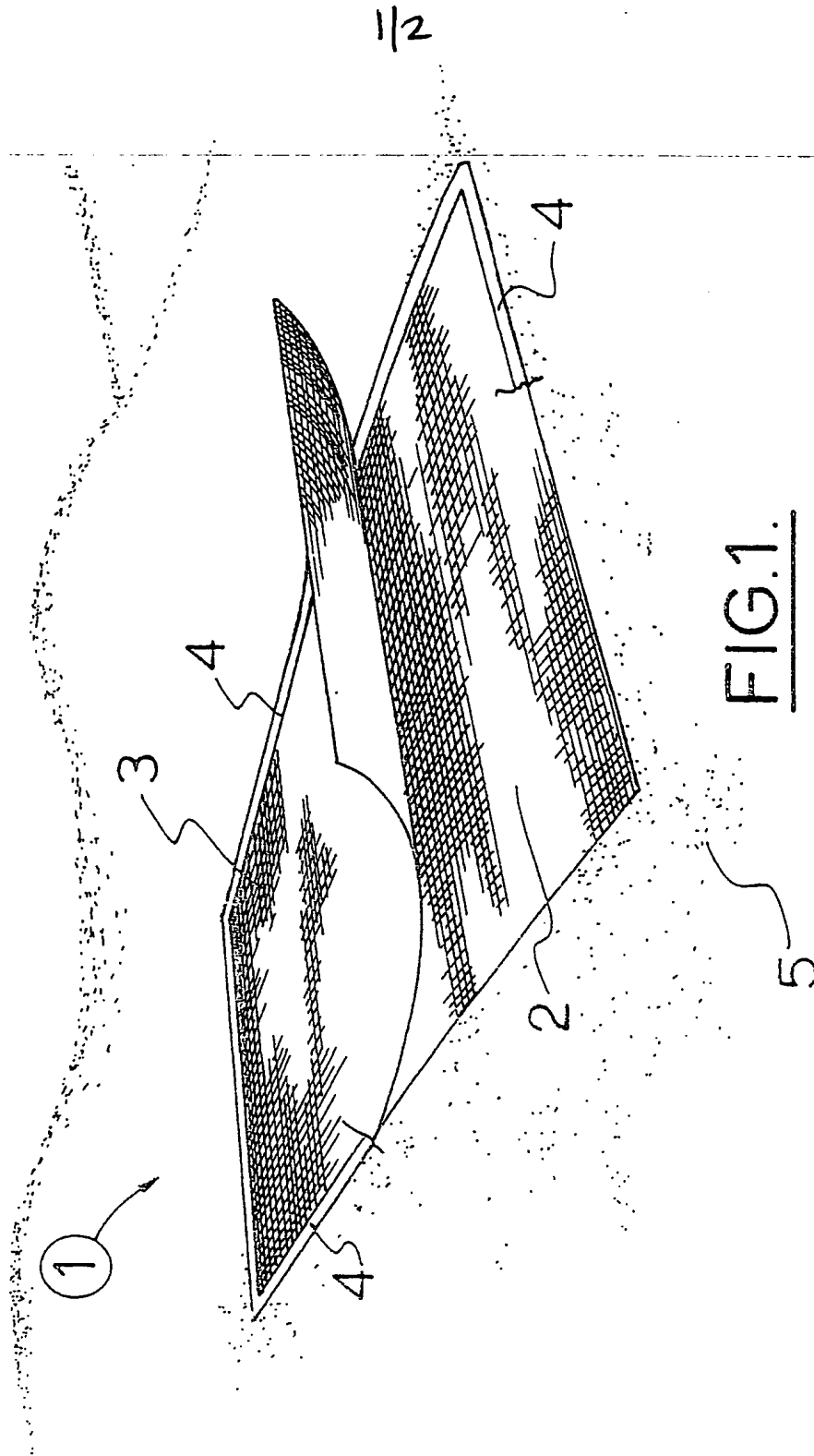
a first layer having an upper surface and a lower surface, said first layer adapted to allow passage of said particulate matter therethrough when said lower surface is in contact with said particulate matter; and

at least a second layer having an upper surface and a lower surface, said second layer adapted to allow passage of any of said particulate matter that may fall on said upper surface of said second layer to pass therethrough;

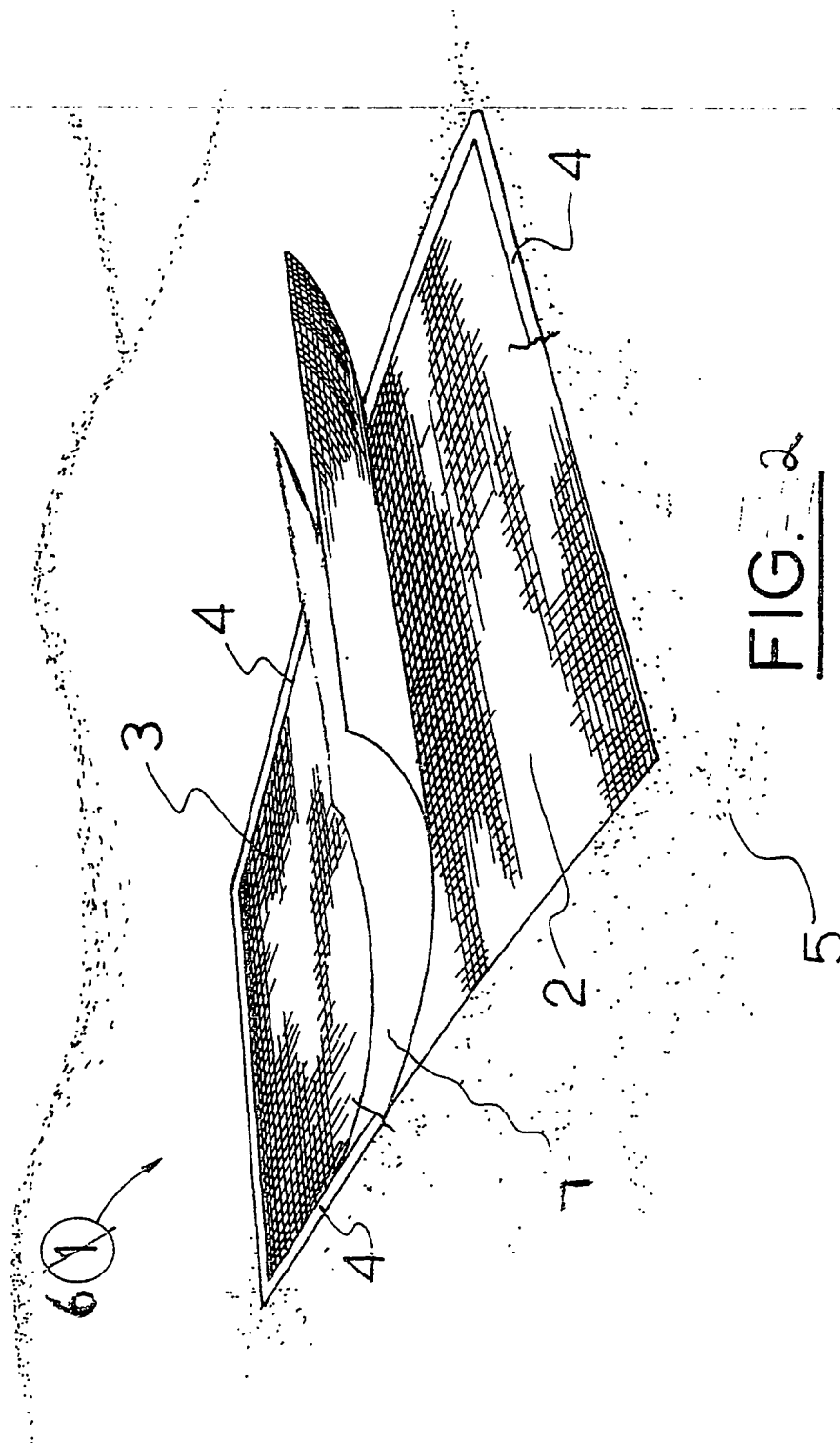
wherein said second layer is positioned substantially over said first layer to retain therebetween any of said particulate matter that has passed through said upper surface of said second layer and/or said lower surface of said first layer.

2. A mat as defined in Claim 1, wherein there is a single said second layer.
3. A mat as defined in Claim 1 which further includes a third layer positioned substantially over said second layer having an upper surface and a lower surface, said third layer adapted to allow passage of any of said particulate matter that may fall on said upper surface of said third layer to pass therethrough.

4. A mat as defined in Claim 1 or Claim 2, wherein each of said first and said second layer is of a mesh-like configuration.
5. A mat as defined in Claim 3, wherein said third layer is of a mesh-like configuration.
6. A mat as defined in Claim 4 or Claim 5, wherein said mesh-like configuration is provided by a flexible material.
7. A mat as defined in Claim 6, wherein said flexible material is a plastic material.
8. A mat as defined in any one of Claims 1 to 4, wherein each of said first and said second layer is manufactured from polypropylene.
9. A mat as defined in Claim 5, wherein said third layer is adapted to accept screen printing on its said upper surface.
10. A mat as defined in Claim 9, wherein said third layer is manufactured from nylon.
11. A mat as defined in Claim 10, wherein said third layer is manufactured from polyvinylchloride-coated nylon.
12. A mat as defined in any one of Claims 1 to 11, wherein said first layer is secured to said second layer and to any other said layer at the perimeter of each of said layer.



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INTERNATIONAL SEARCH REPORT

International application No.
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A. CLASSIFICATION OF SUBJECT MATTER																						
Int. Cl. ⁷ : A47G 9/06, E04H 15/56																						
According to International Patent Classification (IPC) or to both national classification and IPC																						
B. FIELDS SEARCHED																						
Minimum documentation searched (classification system followed by classification symbols)																						
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched																						
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) WPAT: A47G 9/06, A47C 9/10, A45F 1/02, 1/08, E04H 15/56 and keyword sand																						
C. DOCUMENTS CONSIDERED TO BE RELEVANT																						
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.																				
A	US 5018230 A (STEBERGER) 28 May 1991 Whole document																					
A	US 4703528 A (ROLLE) 3 November 1987 Abstract																					
A	US 4278719 A (SARNECKI) 14 July 1981 Abstract																					
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex																						
<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>"A"</td> <td>document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T"</td> <td>later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"E"</td> <td>earlier application or patent but published on or after the international filing date</td> <td>"X"</td> <td>document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"L"</td> <td>document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y"</td> <td>document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O"</td> <td>document referring to an oral disclosure, use, exhibition or other means</td> <td>"&"</td> <td>document member of the same patent family</td> </tr> <tr> <td>"P"</td> <td>document published prior to the international filing date but later than the priority date claimed</td> <td></td> <td></td> </tr> </table>			"A"	document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E"	earlier application or patent but published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family	"P"	document published prior to the international filing date but later than the priority date claimed		
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Date of the actual completion of the international search 18 January 2002		Date of mailing of the international search report 31 JAN 2002																				
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929		Authorized officer M. BREMERS Telephone No : (02) 6283 2052																				

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU01/01489

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5353453 A (NAUMANN) 11 October 1994 Abstract	

INTERNATIONAL SEARCH REPORT
Information on patent family membersInternational application No.
PCT/AU01/01489

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member
US	5018230	NONE
US	4703528	NONE
US	4278719	NONE
US	5353453	NONE
END OF ANNEX		

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